Applicant

	Application No.	Applicant(s)
Notice of Allowability	09/155,982	KLEIN ET AL.
	Examiner	Art Unit
	Ginny Portner	1645
The MAILING DATE of this communication appears on the cover sheet with the correspondence address All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.		
1. This communication is responsive to 3/25/2004 and authorization 6/9/2004 for examiner's amdt.		
2. ☑ The allowed claim(s) is/are <u>40</u> -48, 50 - 78		
3. The drawings filed on are accepted by the Examiner.		
 4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some* c) None of the: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). * Certified copies not received: Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. 		
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ☐ ☐. () () () () () () () () () (
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.		
Attachment(s) 1. Notice of References Cited (PTO-892) 2. Notice of Draftperson's Patent Drawing Review (PTO-948) 3. Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material	6. ☐ Interview Summary Paper No./Mail Da 8), 7. ☑ Examiner's Amend	nte

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REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The instantly claimed isolated monoclonal antibody that is specific for the Taylorella equigenitalis protein 150 kDA, is not taught, nor reasonably suggested by the prior art of record. The claimed compositions all comprise the novel and unobvious embodiment of a monoclonal antibody that specifically binds to the 150 kDA protein, therefore, combination compositions, kits, and methods of use of the monoclonal antibodies also define over the prior art of record.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

- 3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- 4. Authorization for this examiner's amendment was given in a telephone interview with Ms. Erin M. Dunston, Registration Number 51,147 on June 9, 2004.
- 5. The application has been amended as follows:

Please substitute the following listing of the claims.

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Claims 1-39. Cancelled.

Claim 40. (Previously Presented) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment, which recognizes a 150 kDA *T. equigenitalis* protein.

Claim 41. (Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 40, in combination with at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T. equigenitalis* proteins antigens selected from the group consisting of *T. equigenitalis* antigens proteins of 120 kDA, 52.7 kDA and 22 (LPS) kDA.

Claim 42. (Previously Presented) An isolated monoclonal antibody obtained by a process comprising:

fusing non-secreting murine myeloma cells with spleen cells from mice immunized against an inactivated strain of the species *T. equigenitalis* or extract(s) of such a strain,

cloning and selecting according to the capacity of their culture supernatant to recognize a 150 kDA *T. equigenitalis* protein,

recovering the required monoclonal antibody, and optionally purifying said monoclonal antibody.

Claim 43. (Currently Amended) A method of obtaining a monoclonal antibody according to claim 40, comprising:

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fusing non-secreting murine myeloma cells with spleen cells from mice immunized by means of a strain of the species *T. equigenitalis* or extract(s) from such a strain, screening hybridomas whose culture supernatants exhibit a positive reaction with a 150 kDA *T. equigenitalis* protein or a fragment thereof,

selecting by cloning the hybridomas with respect to their reactivity, in relation to *T. equigenitalis*,

recovering the monoclonal antibody, and optionally purifying said monoclonal antibody.

Claim 44. (Currently Amended) A strain of hybridoma, which secretes a the monoclonal antibody according to claim 40.

Claim 45. (Currently Amended) A method of identification of a bacterium of the species Taylorella equigenitalis (T. equigenitalis) in a specimen or in a culture comprising:

bringing the specimen or the culture to be analyzed, which may contain T.

equigenitalis antigen, into contact with an effective quantity of a monoclonal antibody or Fv, Fab or $F(ab')^2$ fragment thereof according to claim 40, under conditions permitting a reaction of the antigen-antibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 46. (Previously Presented) A method of diagnosis of an infection by *Taylorella* equigenitalis (T. equigenitalis) comprising:

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(a) bringing a monoclonal antibody or fragment thereof according to claim 40, into

contact with a biological sample, wherein said sample may contain T. equigenitalis antigen,

under conditions permitting an antigen-antibody reaction, and

(b) detecting any antigen/antibody type reaction product formed in said sample between the

antibody or fragment of (a) and a T. equigenitalis antigen, wherein said product is indicative of a

diagnosis for T. equigenitalis infection.

Claim 47. (Previously Presented) The method according to claim 45, further comprising

blocking the non antigen-antibody reactions.

Claim 48. (Previously Presented) A kit for application of a method of identification of a

bacterium of the species Taylorella equigenitalis (T. equigenitalis) in a specimen or in a culture

comprising:

a monoclonal antibody or fragment according to claim 40,

a reagent for detecting the intended immunologic reaction,

optionally, a reagent for blocking the non antigen-antibody reactions, and

instructions for use.

Claim 49. Cancelled.

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Claim 50. (Currently Amended) A kit according to claim 48, wherein said reagent for-carrying out-detecting the intended immunologic reaction is selected from the group consisting of markers and buffers.

Claim 51. (Previously Presented) A kit according to claim 48, wherein a reagent for blocking the non antigenic-antibody reaction is included and said reagent is mouse serum.

Claim 52.(Currently Amended) The method according to claim 47, wherein the non antigenantibody reaction is blocked by saturation of the specimen obtained by means of a serum from which anti-*T. equigenitalis* antibodies have been removed wherein the blocking comprises saturating the specimen with serum from which anti-*T. equigenitalis* antibodies have been removed.

Claim 53. (Previously Presented) The method according to claim 46, further comprising blocking the non antigen-antibody reactions.

Claim 54. (Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 40, in combination with antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens proteins of 120 kDA, 52.7 kDA and 22 (LPS) kDA.

Claim 55.(Previously Presented) An isolated monoclonal antibody or its Fv, Fab or F(ab')²

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fragment according to claim 40, in combination with an antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a 120 kDA *T. equigenitalis* protein.

Claim 56. (Previously Presented) An isolated monoclonal antibody or its Fv, Fab or $F(ab')^2$ fragment according to claim 40, in combination with an antibody or Fv, Fab or $F(ab')^2$ fragment thereof which recognizes a 52.7 kDA *T. equigenitalis* protein.

Claim 57. (Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 40, in combination with an antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a 22 (LPS) kDA *T. equigenitalis* protein antigen.

Claim 58. (Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 42, in combination with at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a *T. equigenitalis* protein antigens selected from the group consisting of *T. equigenitalis* proteins antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA.

Claim 59.(Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 42, in combination with antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* proteins antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA.

Claim 60. (Previously Presented) An isolated monoclonal antibody or its Fv, Fab or F(ab')²

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fragment according to claim 42, in combination with an antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a 120 kDA *T. equigenitalis* protein.

Claim 61. (Previously Presented) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 42, in combination with an antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a 52.7 kDA *T. equigenitalis* protein.

Claim 62. (Currently Amended) An isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment according to claim 42, in combination with an antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a 22 (LPS) kDA *T. equigenitalis* protein antigen.

Claim 63.(Previously Presented) A strain of hybridoma, which secretes the monoclonal antibody according to claim 42.

Claim 64. (Currently Amended) A method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising: bringing the specimen or the culture to be analyzed, which may contain *T. equigenitalis*, into contact with an effective quantity of the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T. equigenitalis* antigen selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22

(LPS) kDA according to claim 41, under conditions permitting a reaction of the antigen-antibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 65.(Currently Amended) A method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising:

bringing the specimen or the culture to be analyzed, which may contain T. equigenitalis antigen, into contact with an effective quantity of the monoclonal antibody or Fv, Fab or $F(ab')^2$ fragment thereof according to claim 42, under conditions permitting a reaction of the antigenantibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 66. (Currently Amended) A method of identification of a bacterium of the species Taylorella equigenitalis (T. equigenitalis) in a specimen or in a culture comprising:

bringing the specimen or the culture to be analyzed, which may contain *T. equigenitalis*, into contact with an effective quantity of the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA monoclonal antibodies or Fv, Fab or F(ab')² fragments

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thereof according to claim 54 under conditions permitting a reaction of the antigen-antibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 67. (Currently Amended) A method of identification of a bacterium of the species Taylorella equigenitalis (T. equigenitalis) in a specimen or in a culture comprising:

bringing the specimen or the culture to be analyzed, which may contain *T. equigenitalis*, into contact with an effective quantity of the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognizes a *T. equigenitalis* antigen selected from the group consisting of *T. equigenitalis* proteins of 120 kDA, 52.7 kDA and 22 (LPS) kDA according to claim 58 under conditions permitting a reaction of the antigen-antibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 68. (Currently Amended) A method of identification of a bacterium of the species Taylorella equigenitalis (T. equigenitalis) in a specimen or in a culture comprising:

bringing the specimen or the culture to be analyzed, which may contain *T. equigenitalis*, into contact with an effective quantity of the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDa T. equigenitalis protein and

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antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T.equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA monoclonal antibodies or Fv, Fab or F(ab')² fragments thereof according to claim 59 under conditions permitting a reaction of the antigen-antibody type, and

detecting any antigen/antibody type reaction product formed, wherein said product is indicative of the presence of a bacterium of the species *T. equigenitalis*.

Claim 69.(Currently Amended) A method of diagnosis of an infection by *Taylorella* equigenitalis (*T. equigenitalis*) comprising:

- (a) bringing the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T. equigenitalis* antigens selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22(LPS) kDA a monoclonal antibody or fragment thereof according to claim 41 into contact with a biological sample, wherein said sample may contain *T. equigenitalis* antigen, under conditions permitting an antigen-antibody reaction, and
- (b) detecting any antigen/antibody type reaction product formed in said sample between the antibody or fragment of (a) and a *T. equigenitalis* antigen, wherein said product is indicative of a diagnosis for *T. equigenitalis* infection.

Claim 70. (Currently Amended) A method of diagnosis of an infection by *Taylorella* equigenitalis (*T. equigenitalis*) comprising:

- (a) bringing the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment thereof according to claim 42 into contact with a biological sample, wherein said sample may contain *T. equigenitalis* antigen, under conditions permitting an antigen-antibody reaction, and
- (b) detecting any antigen/antibody type reaction product formed in said sample between the antibody or fragment of (a) and a *T. equigenitalis* antigen, wherein said product is indicative of a diagnosis for *T. equigenitalis* infection.

Claim 71.(Currently Amended) A method of diagnosis of an infection by *Taylorella* equigenitalis (T. equigenitalis) comprising:

(a) bringing the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens selected from the group consisting of *T. equigenitalis* proteins of 120 kDA, 52.7 kDA and 22(LPS) kDA a monoclonal antibody or fragment thereof according to claim 54 into contact with a biological sample, wherein said sample may contain *T. equigenitalis* antigen, under conditions permitting an antigen-antibody reaction, and

- (b) detecting any antigen/antibody type reaction product formed in said sample between the antibody or fragment of (a) and a *T. equigenitalis* antigen, wherein said product is indicative of a diagnosis for *T. equigenitalis* infection.
- Claim 72. (Currently Amended) A method of diagnosis of an infection by *Taylorella* equigenitalis (*T. equigenitalis*) comprising:
- (a) bringing the combination of an isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T. equigenitalis* antigens selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment thereof according to claim 58 into contact with a biological sample, wherein said sample may contain *T. equigenitalis* antigen, under conditions permitting an antigen-antibody reaction, and
- (b) detecting any antigen/antibody type reaction product formed in said sample between the antibody or fragment of (a) and a *T. equigenitalis* antigen, wherein said product is indicative of a diagnosis for *T. equigenitalis* infection.
- Claim 73. (Currently Amended) A method of diagnosis of an infection by *Taylorella* equigenitalis (*T. equigenitalis*) comprising:
- (a) bringing the combination of an isolated monoclonal antibody or its Fv, Fab or

 F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and antibodies or Fv, Fab

 or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens of 120 kDA, 52.7

<u>kDA</u> and 22 (LPS) <u>kDA</u> a monoclonal antibody or fragment thereof according to claim 59 into contact with a biological sample, wherein said sample may contain *T. equigenitalis* antigen, under conditions permitting an antigen-antibody reaction, and

(b) detecting any antigen/antibody type reaction product formed in said sample between the antibody or fragment of (a) and a *T. equigenitalis* antigen, wherein said product is indicative of a diagnosis for *T. equigenitalis* infection.

Claim 74.(Currently Amended) A kit for application of a method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising: the combination of isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T. equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T. equigenitalis* antigens selected from the groups consisting of *T. equigenitalis* proteins of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment according to claim 41,

reagents for detecting the intended immunologic reaction,
optionally, reagents for blocking the non antigen-antibody reactions, and
instructions for use.

Claim 75. (Previously Presented) A kit for application of a method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising:

a monoclonal antibody or fragment according to claim 42,

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reagents for detecting the intended immunologic reaction,

optionally, reagents for blocking the non antigen-antibody reactions, and instructions for use.

Claim 76. (Currently Amended) A kit for application of a method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising: the combination of isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T equigenitalis* protein and antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens selected from the groups consisting of *T. equigenitalis* proteins of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment according to claim 54,

reagents for detecting the intended immunologic reaction,

optionally, reagents for blocking the non antigen-antibody reactions, and instructions for use.

Claim 77. (Currently Amended) A kit for application of a method of identification of a bacterium of the species *Taylorella equigenitalis*(*T. equigenitalis*) in a specimen or in a culture comprising: the combination of isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T equigenitalis* protein and at least one antibody or Fv, Fab or F(ab')² fragment thereof which recognize *T.equigenitalis* antigens selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment according to claim 58,

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reagents for detecting the intended immunologic reaction, optionally, reagents for blocking the non antigen-antibody reactions, and instructions for use.

Claim 78. (Currently Amended) A kit for application of a method of identification of a bacterium of the species *Taylorella equigenitalis* (*T. equigenitalis*) in a specimen or in a culture comprising: the combination of isolated monoclonal antibody or its Fv, Fab or F(ab')² fragment which recognizes a 150 kDA *T equigenitalis* protein and antibodies or Fv, Fab or F(ab')² fragments thereof which recognize *T. equigenitalis* antigens selected from the group consisting of *T. equigenitalis* antigens of 120 kDA, 52.7 kDA and 22 (LPS) kDA a monoclonal antibody or fragment according to claim 59,

reagents, for detecting the intended immunologic reaction, optionally, reagents for blocking the non antigen-antibody reactions, and instructions for use.

Claims 79-83 Cancelled.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginny Portner whose telephone number is (571) 272-0862. The examiner can normally be reached on 7:30-5:00 M-F, alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Lynette Smith can be reached on (571) 272-0864. The fax phone number for the organization

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where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vgp

June 10, 2004

LYNETTE R. F. SMITH
SUPERVISORY PATENT FX AND TECHNOLOGY CENTER 1600

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